

PETAURISTA NOBILIS SINGHEI — FIRST RECORD IN INDIA
AND A NOTE ON ITS TAXONOMY¹

ANWARUDDIN CHOUDHURY²

(With one text-figure)

Key words: Giant flying squirrel, *Petaurista nobilis singhei*, Arunachal Pradesh, West Kameng, northeastern India, distribution

The giant flying squirrel *Petaurista nobilis singhei* is known only from Bhutan. Recently, some skins were examined and live animals observed in the wild in Arunachal Pradesh in northeastern India. This is the first record for the subspecies *singhei* in India, and the first record for the species *P. nobilis*, in northeastern India. Habitat loss and hunting are the main problems faced by the animal. Protected areas having this species are the Eaglenest Wildlife Sanctuary and Sessa Orchid Sanctuary, both in Arunachal Pradesh.

INTRODUCTION

Petaurista nobilis (Gray) is a poorly known giant flying squirrel, described from specimens obtained from Darjeeling, West Bengal. It is also found in the hills and mountains of Nepal and Sikkim (Ghose and Saha 1981). A new subspecies of *Petaurista nobilis* was described from specimens obtained in Bhutan. This new race was named *singhei* (Saha 1977). Larger size, richer colour and the absence of a pale mid-dorsal stripe distinguishes it from the nominate subspecies.

During field survey in western Arunachal Pradesh, I came across both live animals as well as many preserved skins, which happened to be first records for the subspecies in India with an eastward range extension. Locally, the Sherdukpen people call it *Khiaw*.

STUDY AREA AND METHODS

The study area covered West Kameng district (26° 56'-27° 50' N, 92° 01'-92° 56' E) of Arunachal Pradesh. The area was formerly

referred to as part of the Balipara Frontier Tract of Assam, and the Kameng Frontier Tract of NEFA (Northeast Frontier Agency). The terrain is hilly and mountainous (part of the Eastern Himalaya) with elevation varying from 100 m in the south to more than 7,000 m at some of the peaks in the Great Himalaya. The field work was carried out from 100 to 4,000 m. North-south and east-west flowing rivers dissect the district, making long narrow valleys (Tenga, Rupa, Shergaon, Dirang and Sangti). The highest ranges are towards the north, while the lowest elevation is in the riverbeds near the Assam-Arunachal Pradesh border (around 100 m above msl.). The annual rainfall ranges from less than 2,000 mm in the north to more than 3,000 mm in the south.

Several field trips were made to West Kameng (November 1997, April, July, August and November 1998, July, October and December 1999, and April, May and October 2000) to study its wildlife. Some preserved skins were examined in the tribal villages, and the local villagers and hunters were also interviewed. The skins available in the village helped them to describe sightings. For direct observation, we made foot-transects along existing and new paths and trails, and vehicle-transects along roads and motorable tracks. Observations were aided with a pair of

¹Accepted February, 2001

²The Rhino Foundation for Nature in NE India, c/o Assam Co. Ltd. Bamunimaidam, Guwahati 781 021, Assam, India.

10 x 50 binoculars and 10 x 46 telescope. Photographs were taken with a Canon T50 camera with 200 mm tele lens and a Nikon FM2.

RESULTS

External measurements and coloration:

Most of the specimens seen in different villages (skins) were examined using standard methods and photographed. The measurements are listed in Table 1. The length of head and body ranged from 47 to 69 cm while that of tail, 51 to 61 cm.

All the specimens examined have thick, woolly, glossy hair. The saddle is a rich maroon-brown. The shoulder patches extend along the sides of the body, and in some specimens may join at the lower back (behind the dark saddle). Colour varies from rich orange-buff to rich

brownish-buff. Parachute varies from orange-yellow to ochraceous-brown. Tail-tip deep blackish or black. Underside light yellow-buff, almost uniform except near abdomen, which is richer. The dark saddle may join the dark area on head by a broad patch or a thin line. Mid-dorsal stripe present in one skin, but it is broken.

Distribution and Habitat:

Specimens were examined at Morsing, Tenzinggang, Shergaon, Thungre, and Tenga Valley, while live animals were observed between Lamacamp and Ramalingam, just outside Eaglenest and Sessa Orchid Sanctuaries (Fig. 1). Coordinates and elevations are given in Table 1. The animals were found to occur in the wild in subtropical and temperate broadleaf forests, in the mountains from 1,500 m up to 2,300 m. The habitat near Tenzinggang nullah, from where a few were shot

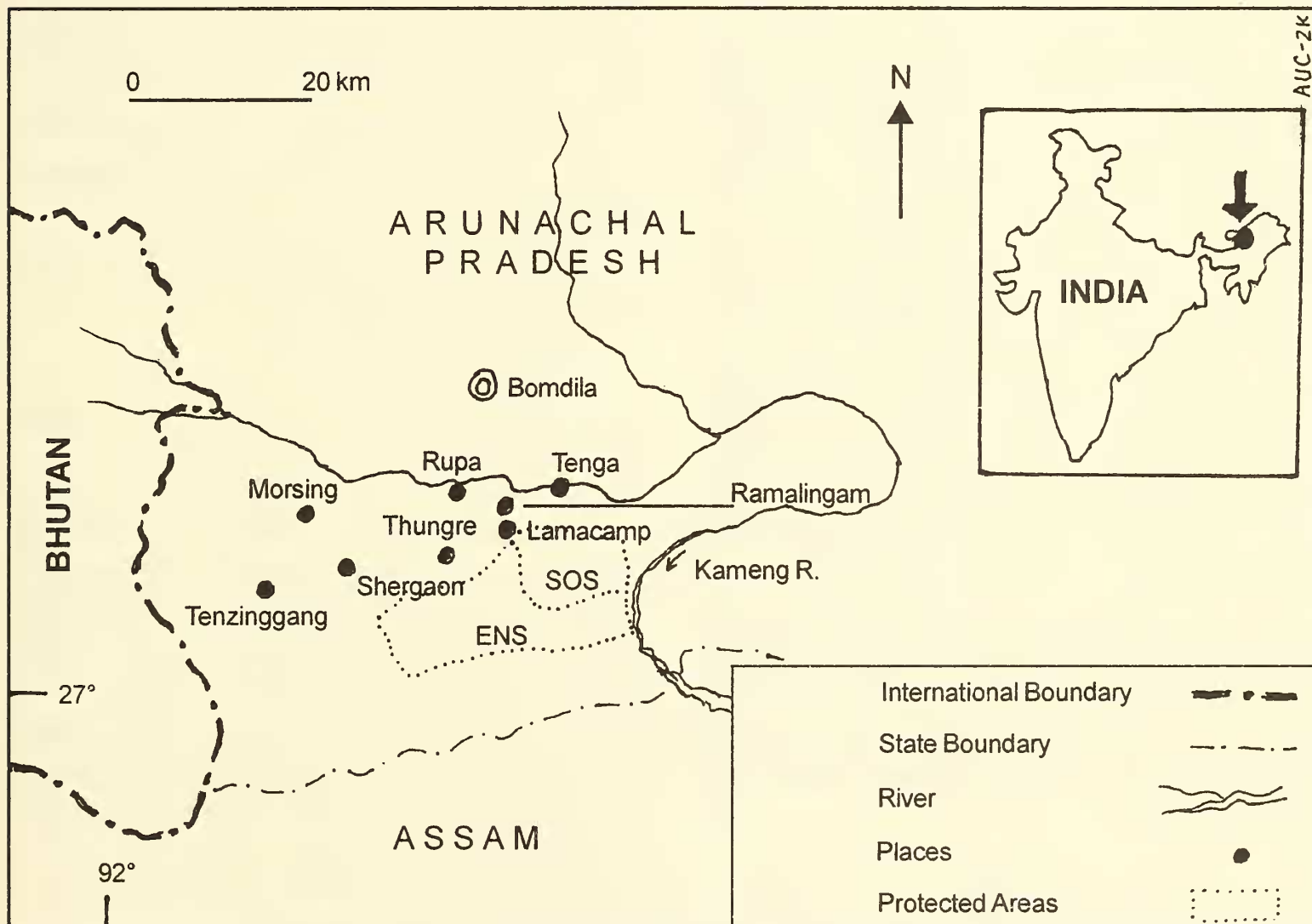


Fig. 1: Map of the study area showing the places mentioned in the text (SOS Sessa Orchid Sanctuary, ENS Eaglenest Sanctuary)

by hunters from Shergaon, is subtropical broadleaf. It may also occur in mixed broadleaf and coniferous forests (e.g., near Tenga Valley, Thungre).

Ecology: Very little is known. Like other giant flying squirrels, *singhei* is also nocturnal. The specimens seen live, as well as those shot by local hunters, were all sighted at night. The live animals were seen feeding on the ground, on dirt road after dusk. They preferred new roadside cuttings. On examination of the feeding sites, nothing on the ground indicated that they were taking salt or minerals directly from the earth (primates and ungulates often haunt such new cuttings or slides for salt).

A squirrel feeding on the ground almost came under our vehicle. It was rather unafraid and moved away slowly. At another site, one was by the side of the road and went down as we approached.

Conservation issues: It is apparent that habitat loss and hunting for the pot are the main threats faced by *singhei*. The number of skins in just a few villages indicates that many are shot every year. Many hunters do not keep the skins. Also, there is apparently no trade, save for a few skins sold to visitors or army officials. Habitat loss is mainly due to felling. However, in view of the Supreme Court judgement, large-scale cutting has currently been stopped. In the 1980s and early 1990s, most of the forest around Rupa, Thungre, and between Rupa and Shergaon was destroyed. The habitat near Shergaon and Tenzinggang is still good. But there is no future for these areas, as the community forests have been saved temporarily by a court judgement and villagers are waiting for the clearance from the court in future. The protected areas having *singhei* are Eaglenest Wildlife Sanctuary (217 sq. km) and Sessa Orchid Sanctuary (100 sq. km).

DISCUSSION

The range of the species is now extended eastwards by more than 100 km. This is also the

first record, for India, of the subspecies *singhei* which was known only from Bhutan (Saha 1977) where it has been recorded at Gomchu Valley (c. 2,240-2,288 m), Paro (c. 2,440 m) and Mithangarh (c. 1,676 m). In the holotype and seven paratypes, tail length is always more than that of head and body, the difference being marginal (49:51 cm) to significant (48.7:59 cm). In the present study, in four skins, the head-body and tail were intact (Table 1). In only one case was the tail longer, while in the rest, the head and body were longer than the tail. The specimens of the present study were also larger than in previous records. The longest head and body length in Saha (1977) is given as 48.7 cm, and that of tail 59.0 cm (same specimen). In our study, all but one are larger in size (head and body max. 69 cm). However, in case of the tail only one exceeded 60.0 cm (61.0 cm). The largest specimen (overall: head-body and tail) in Saha (1977) was 107.7 cm while in the present case, it is 126.8 cm. Our records also show that there could be significant variations in the length of the tail and coloration in the species.

The nominate subspecies *P. n. nobilis* (Gray) is known from Darjeeling, Sikkim and Nepal (Ghose and Saha 1981).

The taxonomic status of *nobilis* was the subject of some controversy. The giant flying squirrels with prominent yellow shoulder patch, originally described as *Sciuropterus* [= *Petaurista*] *magnificus* Hodgson 1836, and *Sciuropterus* [= *Petaurista*] *nobilis* Gray 1842 were synonymised by most authors. Blyth (1863) treated *Petaurista nobilis* and Hodgson's giant flying squirrel *Petaurista magnificus* as conspecific, likewise Ellerman (1963), and Ellerman and Morrison-Scott (1966). However, Wroughton (1911, 1919) treated *nobilis* as a separate species, but as a race of *Petaurista albiventer* (Gray). Corbett and Hill (1992) also treated it as a separate species.

P. magnificus and *P. nobilis* have been isolated from their congenics by the presence

TABLE I
MEASUREMENTS AND DETAILS OF LOCALITIES OF *PETAURISTA NOBILIS SINGHEI*

| Locally | Coordinates of Locality of Collection / Sighting | Elevation of Locality of Collection / Sighting (m above msl) | Head and body of skin (cm) | Tail (cm) (up to tip of the hair) | Remarks |
|---------------------------------|--|--|----------------------------|-----------------------------------|---|
| Thungre | 27° 07' N, 92° 25' E | 1,800+ | 47.0 | 51.0 | April 1999 |
| Shergaon | 27° 07' N, 92° 15' E | 2,000+ | 62.0 | (cut) | April 1999 |
| Shergaon | 27° 07' N, 92° 15' E | 2,000+ | 59.5 | 57.0 | April 1999 |
| Shergaon | 27° 07' N, 92° 25' E | 2,000+ | 69.0 | 57.8 | Some of the Shergaon specimens were shot near Tenzinggang Nala (27° 06' N, 92° 12' E) 1500 m + elevation) |
| Between Lamacamp and Ramalingam | 27° 09' N, 92° 27' E | 2,100-2,300 | - | - | 2 seen live at 6-6.20 p.m. December 10, 1999 |
| Morsing | 27° 10' N, 92° 13' E | 2,000+ | - | - | May 2000; skin not measured |
| Tenga Valley | 27° 11' N, 92° 30' E | 1,500+ | 64.0 | 61.0 | December 1999 |

of distinct shoulder patches. Even Ellerman (1963) concluded that the two forms were seasonal variants. One obvious reason was lack of material. Ghose and Saha (1981) showed that besides coloration, there is significant difference in the skull.

I suggest a common name "orange giant flying squirrel" for the species/subspecies.

ACKNOWLEDGEMENTS

For encouragement and support, I thank Ms Emily Chowdhary, Commissioner & Secretary to the Govt of Assam. For assistance during field survey in Arunachal, I thank S.N. Kalita (CCF-wildlife), M.K. Palit (former DFO-wildlife, Seijosa), C. Loma (DFO-wildlife, Seijosa), A.K. Singh (Range Officer, Ramalingam), S.K. Shome (i/c Range Officer, Ramalingam), B. Ali and B.C. Dey (both Foresters, Ramalingam), B.C. Hazarika, FG

(WL), Ramalingam; T. Hazarika, FG (terr.) Ramalingam; Anupam Sharma, botanist; Moniram Gogoi, Rajesh Pachung, Dorji Raptan, Pemba Tamang (all retrenched Sanctuary Watchers); Srimanta Tamuli and Gajen Tamang.

I also thank for their help and support, R.K. Das, DFO (wildlife) at Tezpur, Pankaj Sharma, Range Officer, Nameri National Park; N. Bhuiyan, brother-in-law of B.C. Hazarika; Nitu Phukan of Eco-camp, wife of B.C. Hazarika (FG-WL, Ramalingam), army posted at Ramalingam, Bisoy Boro, Moniram Boro, Painu Phiyang, Gajen Tamang, Bablu Dey, Mithun Sarkar, Lei Khandu Thungon of Shergaon, and the later Ledo Thungon of Extra-Assistant Commissioner's Office at Kalaktang.

Special thanks are due to Bir Bahadur Gurung and Hakeem, for accompanying me on many of the trips, and K.N. Thungon (teacher) of Shergaon, who was my virtual host in that area.

REFERENCES

BLYTH, E.K. (1863): Catalogue of the Mammalia in the Museum of the Asiatic Society of Bengal. Bengal Ptg. Co. Ltd., Calcutta. Pp. 187, xiii.

CORBET, G.B. & J.E. HILL (1992): The mammals of the Indomalayan Region: a systematic review. Oxford University Press, London. Pp. 488, viii

FIRST RECORD OF PETAURISTA NOBILIS SINGHEI IN INDIA

- ELLERMAN, J.R. (1963): The fauna of India including Pakistan, Burma and Ceylon. *Mammalia*, 3 (Rodentia) (1). Govt. of India, Delhi. Pp. 482, xxx.
- ELLERMAN, J.R. & T.C.S. MORRISON-SCOTT (1966): Checklist of the Palaearctic and Indian mammals, 2nd edn. British Museum, London.
- GHOSE, R.K. & S.S. SAHA (1981): Taxonomic review of Hodgson's giant flying squirrel *Petaurista magnificus* (Hodgson) (Sciuridae: Rodentia), with description of a new subspecies from Darjeeling district, West Bengal, India. *J. Bombay nat. Hist. Soc.* 78: 93-102.
- SAHA, S.S. (1977): A new subspecies of the flying squirrel, *Petaurista nobilis* (Gray), from Bhutan. *Proc. Zool. Soc., Calcutta* 28(1975): 27-29.
- WROUGHTON, R.C. (1911): Oriental flying squirrels of the 'Pteromys' group. *J. Bombay nat. Hist. Soc.* 20: 1012-1023.
- WROUGHTON, R.C. (1919): Summary of the results from the Indian Mammal Survey of the Bombay Natural History Society. Part 3. *J. Bombay nat. Hist. Soc.* 26: 338-379.

